

# Identification of the Application of Vegetation Elements in the Biophilic and Comfort Concept in the Lobby, Dining Room & Public Space of Greenhost Hotel, Prawirotaman, Yogyakarta

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## ABSTRACT

The abstract says, In modern cities, the built environment becomes oppressive; Urban spaces are almost unlivable in fact in cities more and more blighted due to design fads and industrialist buildings. Biophilic Design can reduce stress, increase creativity, clarity of thought and improve our well-being, and speed healing. The priorities of Biophilic Architecture are Natural Patterns in Space, Natural Analogy Patterns, and Natural Space Patterns. Yogyakarta has a large number of visitors attending the tourism sector in the Patrioman area, visitors often look for places such as accommodation, cafes, restaurants, and entertainment centers of socialize and relax to create significant business opportunities. Research objectives, some of the results of research that have been carried out with the Biophilic concept are taken, the aim of the research is as an alternative solution to create a healing environment by optimizing architectural design concepts to respond to the health, cognitive, psychosocial and psychological health of hotel users. The impression of this building is extensive on spatial vegetation by arranging the placement of mass, treating the space and mass of space with high quality towards the natural environment, and using materials both inside and out as well as an appearance with a natural appearance to create positive response. This research hopes to be implemented in Greenhost Yogyakarta with a biophilic standardization of spaces in Greenhost Yogyakarta is mostly the application of the Biophilic design model which has been recommended by the fourteen Biophilic design models.

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## 1. INTRODUCTION

Industrial building modes and urbanization occurred in the 20th century. Humans have lost their previous relationship with nature and also their homes. In most modern cities, the built environment has become oppressive; urban spaces are almost uninhabitable and even in cities there are

more diseases because of industrial design and building modes; thus, affecting humans as well.

The presence of the industrial era and urbanization in the early 1901s. with the ongoing human beings experienced the loss of a place to live with ties to nature. Changes in the City 8nature has been displaced and taken over by urbanized cities, even causing damage to the

health of residents living in large cities due to industrial design and building modes so that humans are affected by negative impacts such as air pollution, stress, declining health [1].

The results of the researcher's conclusion from [2] have an effect, namely vegetation where the more vegetation in the surrounding RTHP and its surroundings can provide freshness, as well as maintain and improve environmental quality. The administrative area in the city of Yogyakarta has 32.5 km. In the spatial planning of the city of Yogyakarta that 5000 m<sup>2</sup> has a total of 165 large trees and 246 shrubs, has a strategic location because it is adjacent to the arter road in the Umbulharjo district and is easy to reach and prioritizes ecological and aesthetic functions and children's education [3].

The location of this area is considered strategic because it is close to several Trans Jogja Bus Stops, Codong Catur Terminal, Adi Sucipto Airport, and Maguwo Station. The existence of a high population area creates a large potential market, especially for goods and services needed by students, staff, and surrounding residents.

In the research of agus supriyono - decrease in blood pressure in hypertensive patients) decrease in blood pressure occurs due to relaxation stimulation through the sense of hearing and smell. Endorphins that increase positive feelings and pain. The combination of inhaling aromatherapy with the provision of nature with plant vegetation, namely roses, will be able to increase the relaxation effect, reduce pain and lower blood pressure in hypertensive patients [4].

Found research study is green host hotel is most suitable implementation of biophilic concept. Green host is promoting farmer city and environmentally friendly which is architected by [5] Greenhost needs to be identified related to the comfort of visitors and workers in vegetation plants is the main function of elements and elements of Biophilic.

## 2. LITERATURE REVIEW

There are several literature reviews books, books and journals which are the initial steps for researchers as follows:

### 2.1 Definition of Biophilic

Biophilic design is the deliberate attempt to translate an understanding of the inherent human affinity to affiliation with natural systems and processes known as biophilia [6]. Design science that can be applied to create human interaction with nature and the environment.

Biophilic design can reduce stress, increase creativity and clarity of thought, enhance our well-being and accelerate healing; as the world's population continues to urbanize, these qualities are more important than ever. Theories, research scientists and design practitioners have been working for decades to determine which aspects of nature most impact our satisfaction with the built environment [7].

There are two basic dimensions of biophilic design that relate to the six elements of biophilic design, namely:

1. Environmental features
2. Natural shapes and forms
3. Natural patterns and processes
4. Light and space
5. Place-based relationships
6. Evolving human-nature relationships

### 2.2 Health indicators

Explaining that environmental factors play a major role in the healing process, which is 40% while medical factors are only 10%, genetic factors 20%, and other factors 30%. Related to the major role of environmental factors in the healing process. So, it is only right that the environment gets a large portion in hospital design.

With such considerations, it is only right that Greenhost Hotel implements the biophilic concept and the concept that emphasizes the natural environment in large numbers is the healing environment concept.

Biophilic in healing has 3 important aspects that influence human cognition, such as controlling thoughts that have an impact on human psychology, psychological aspects that can lead oneself to control one's emotions when facing stress that will affect human immune production.

**2.3 Vegetation element indicators**  
*Vegetation elements are*

Vegetation elements according to [8] in current landscape design, the presence of plants enriches the architectural value of a building, and vice versa the building shows the architectural quality of a plant. In making a table of vegetation elements according to the researcher's perception as follows:

Table 1. Vegetation Elements

Self-observation	Observation	Indicator
Vegetation Elements	Ornamental Vegetation	Climate
	Tropical Vegetation	Texture
	Indoor & Outdoor Vegetation	Color
	Vegetation Arrangement	species
	Function of vegetation	
Biophilic design elements		
Health Elements		

Source: Own Analysis, 2024

**2.4 Biophilic design elements**

Breaking down and finding out that finding two approaches between Universal Design and Biophilic Design has exactly the same thing, namely presenting in design using the following biophilic design attributes:

1. Color
2. Water
3. Sunlight
4. Plant
5. Animal
6. Natural materials
7. Natural lighting
8. Natural ventilation
9. Botanical motifs
10. Sensory variables

So that it raises the added value of both approaches. Universal Design impression is monotonous and less expressive then changed into biophilic elements, this can appreciate the supporter of comfort for workers and visitors to Greenhost Hotel Yogyakarta. Biophilic design has the advantage of showing the

beauty and attraction of visitors and providing the reality of equality standards, convenience, use for architects and planners or designers.

**3. RESEARCH METHODOLOGY**

This research is entitled "Identification of the application of vegetation elements in the biophilic concept and the comfort of workers and visitors to the Greenhost Hotel building, Yogyakarta". The research method I took was qualitative descriptive and identification using cross checking (comparison and adjustment to the Green Host Hotel, Prawirotaman, Yogyakarta City).

The steps of continuous description are:

1. Conduct observation documentation,
2. observing the identification of vegetation plants to see how successful their influence is on workers and visitors to the Greenhost Hotel building.
3. Then create a Google form about vegetation elements and comfort for Greenhost Hotel workers and visitors.

4. After making the questionnaire, data collection and processing were carried out using instruments in the form of interviews with a google form questionnaire. In order to describe and improve objective and subjective. Starting from a linear scale of 1-5 and in essays as input and suggestions for the Greenhost Hotel building.

In the development of Greenhost Hotel Yogyakarta, biophilic theory was implemented as stated by Browning WD and his friends:

1. Natural lighting (Biophilic elements)
2. Place Comfort Indicator (health & comfort indicator)
3. Core garden in building (vegetation elements)
4. City Park (vegetation elements)
5. Humans with flora nature (vegetation elements)
6. Nature's efforts to bring indoors (vegetation elements)

**4. RESEARCH RESULTS AND DISCUSSION**

**a. Greenhost Hotel, Prawirotaman Yogyakarta which implements the biophilic concept and vegetation elements**

The location of the place is on Jalan Gerilya No. 629, Brontokusuma, Mergangsan District, Yogyakarta City, Special Region of Yogyakarta. The mixed-use hotel area is designed by Paulus Minarga Ananda Soewono and Santo) and under the contractor by (PT. Syana Land Internasional Tbk). from my own observation the building is a mixed-use hotel therefore it has 2 retails namely a spa room and a fashion store and cafe. The Greenhost Hotel Yogyakarta building has an area of m2 and a height according to KLB observations is 4 floors.



Figure 1. macro map of Yogyakarta city (Source: internet, 2024)



Figure 2. Map image of the location of Greenhost Hotel Yogyakarta (Source: internet, 2024)



Figure 3. Greenhost Hotel Building, Prawirotaman, (Source: own documentation, 2024)

**b. Research object Greenhost Hotel, Prawirotaman, Yogyakarta**

There are literature reviews, observations of researchers, and data from respondents of visitors and workers who are at the Greenhost Hotel Yogyakarta. This building was built in 2020. The building was architected by architected by Paulus Minarga Ananda Soewono and Santo) and under the contractor by (PT. Syana Land Internasional Tbk). The object of the research conducted by the researcher is related to:

1. Green host Hotel is an architectural concept that is environmentally friendly with a touch of culture. Researchers tried the Greenhost

Hotel building carrying the biophilic concept and vegetation elements and health parameters according to the review are:

- a. Observation sheets and documentation are used to identify vegetation elements and vegetation planting arrangements.
  - b. The log sheet/questionnaire was used to measure respondent data and input from visitors and workers of Greenhost Hotel, Yogyakarta.
2. Biophilic in healing has 3 important aspects that influence human cognition, such as controlling thoughts that have an impact on human psychology, psychological aspects that can lead oneself to control one's emotions when facing stress that will affect human immune production.
- c. **Identification of vegetation elements at Greenhost Hotel, Yogyakarta**

Greenhost Hotel, Prawirotaman, Yogyakarta, Special Region of Yogyakarta is most of the indicators and parameters are quite adjusting the elements of vegetation, health, and biophilic design. The main facilities of Green host Hotel consist of: lobby entrance, reception, luggage, janitor room, dining room, room type divided into 4, male and female lavatory. Supporting facilities include a pool, dining room, waiting room, smoking area. Commercial/retail facilities such as personal care (spa), fashion stores, cafes and restaurants.

Based on the vegetation elements of the outdoor area and the indoor area at Greenhost Hotel Yogyakarta, each space is placed differently on what function it is placed in. Vegetation elements analyze and process data through

shape, dimension, color, and benefits. Analysis of indoor and outdoor vegetation elements as an implementation of the application of vegetation elements and even biophilic design elements at Greenhost Hotel Yogyakarta.

#### a. **Outdoor area vegetation**

Discussion and observation of researchers conducted, Taman Utama located in the core of the Greenhost Hotel Yogyakarta building attended Taman Utama located the main access from the entrance and reception which is supported by the theory of biophilic design elements, namely nature in the space visual connection with nature and non visual connection with nature is the activity of visitors and workers providing access to views of nature in the form of a healing garden. For non visual connections with nature taken the presence of water located in the core of the Greenhost Hotel Yogyakarta building.

##### 1) **Main Building Garden**



Figure 4. Greenhost Hotel garden

Source: own documentation, 2024



Figure 5. Healing garden  
Source: own documentation, 2024



Figure 6. Types of vegetation in the main garden/healing garden

Source: own documentation, 2024

The vegetation element section in the Main Garden of this building Greenhost Hotel Yogyakarta various kinds of flora plants are supporters of non-visual theory with nature, namely the aroma of herbal plants,

healing garden, the sound of trickling water, and wind. Function of reducing. Stress, physical health during the activities of visitors and workers is able to provide calm and visual mental health [9].

In terms of identification, researchers identified the types of flora plants in the healing garden (the main core of the Green Host Hotel Yogyakarta building).

The types of vegetation elements shown in the image are:

- 1) *Platycerium Bifurcatum*
- 2) *Alocasia*
- 3) Golden pothos
- 4) Peace Lily
- 5) Breadfruit tree (*Artocapus Altilis*)
- 6) Green palm

Table 1. Identification of vegetation elements of the Garden Healing Green Host Hotel Yogyakarta

No.	Room	Vegetation	Room	Cognitive / mental	Physical Health Indicators
1	Main Park	Platycerium Bifurcatum	Garden healing	Increase sexual arousal and pleasure	Wound healing, blood pressure, bone and joint health
		Alocasia	The waiting room	Improve your mood	Filters pollution and chemical gases in the air
		Golden pothos	Void or corridor along the road	Mental health, calm mind and improve mood	Helps breathing, reduces carbon monoxide or toxic properties
		Peace Lily	Garden healing	Improve mental health, and reduce stress	Filters indoor air and helps with VOCs
		Breadfruit tree	Healing garden	Improves mood, reduces stress	Lowering blood pressure, reducing heart pressure, reducing allergies
		Green palm	In front of the swimming pool	Increase sexual desire, improve mental health	Free radical scavenger, treats skin, improves eye health,

Source: Own analysis, 2024

2) **Garden Building 2nd Floor**

The garden on the 2nd floor is a farm city

whose idea was proposed by architect Paulus Minarga who has implemented an



environmentally friendly concept and a touch of traditional culture. Researchers observed the 2nd floor garden space which is almost the same as the healing garden but has a different function, the 2nd floor garden space is a courtyard that carries the concept of biophilic design, a non-rhythmic sensory stimulation section located adjacent to the visitor's room. This pattern is one that involves nature. This space has natural lighting movement directly from the glass roof, and a natural aroma that can restore physiology. This space can feel the wind, and can see the movement of clouds.



Figure 7. 2nd floor garden and courtyard  
Source: own documentation, 2024

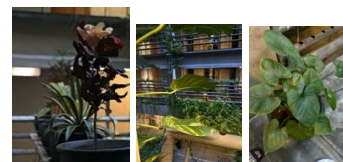


Figure 8. Vegetation in the garden on the 2nd floor  
Source: own documentation, 2024

Vegetation elements of the 2nd floor garden adjacent to the guest room of the occupants with the healing garden. For balm plants in the healing garden and American angrave with their own unique pots. While the golden pothos is a vertical vegetation that sticks to each column of the road corridor. The types of vegetation plants listed below are:

- 1) Lemon balm
- 2) Black Orchid
- 3) American Agrave
- 4) Golden pothos
- 5) Homalomena

The hydroponic vegetation element that was created by architect Paulus is an agricultural city that is placed in the adjacent corridor between the guest rooms of the Greenhost Hotel Yogyakarta residents. The types of vegetation used are:

- 1) Spicy beard
- 2) Lee Kwan Yew
- 3) box



Figure 9. Vegetation section 2nd floor garden  
Source: own documentation, 2024

Table 2. Identification of vegetation elements of the Garden Healing Green Host Hotel Yogyakarta

No.	Room	Vegetation	Room	Cognitive / mental	Physical Health Indicators
1	2nd Floor Garden	Lemon Balm	Garden Healing	Reduces stress, reduces insomnia, and anxiety	Pain and inflammation, lowers heart pressure, calms menstruation,
		Black Orchid		Reduce stress	Used as medicine for diarrhea, nausea, stopping uterine bleeding, stomach ulcer medicine
		American Agrave		Reduce depression,	Body metabolism, wound medicine, strengthening bones, reducing heart pressure, skin revitalization, hair moisture, blood sugar control
2	2nd Floor Garden	Golden Pothos	Garden Healing	Reduce stress	Air cleaning,
3		Homalomena		Reduce stress,	Anti-tumor, protects blood cells, vitamin C, prevents osteoporosis, and antibiotics, reduces the risk of heart disease, prevents cancer and diabetes, intestinal medicine,
4	Hydroponic Floor Garden	Spicy beard	Road corridor	Reduce stress,	Strengthens breathing and circulation to obtain nutrients,
5		Lee Kwan Yew		Mental stimulation, productivity,	Improve air, skin moisture, fast wound recovery,
6		Box		Improves memory, and focus, stress reliever,	Absorbs toxins in air pollution, reduces allergy flare-ups

Source: Own analysis, 2024



### 3) Lobby and Entrance

The lobby entrance at Greenhost Hotel Yogyakarta is the main access for visitors and residents to enter and exit.

The entrance lobby wall almost entirely uses closed partitions with iron frame coating and rectangular geometric shape pine wood sheet panels with a back office for privacy. The entrance facade section uses Lee Kwan Yew plants to add aesthetics to the facade of the Greenhost Hotel Yogyakarta building as shown in Figure 3.



Figure 10. Facadewith vegetation in front of entrance

Source: own documentation, 2024

The vegetation elements identified by researchers are in the entrance lobby area adjacent to the reception and waiting room. Each vegetation element uses its own unique pot attached to a wall that uses a partition with an iron frame and wooden sheet panels, namely

- 1) Golden pothos scindapus
- 2) Golden pothos
- 3) Lily of the valley



Figure 11. Vegetation at the entrance

Source: own documentation, 2024

### 4) Receptionist

The ceiling of the reception area is quite low so that it can focus on the reception desk room shown in the bottom picture of picture 4. The building is sufficient to combine 2 elements, namely vegetation and biophilic design because it uses natural materials such as recycled used materials for plant pots and some vegetation such as golden pothos adjacent to the reception desk as biophilic design elements.

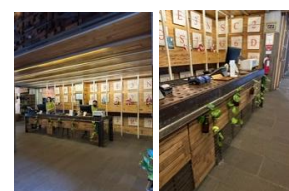


Figure 12. Receptionist worker side by side with vegetation

Source: own documentation, 2024

The vegetation elements used by the receptionist are golden pothos which are adjacent to the workers to provide cognitive/mental support, namely reducing stress, increasing productivity and health indicators, namely filtering toxic air.

Table 3. Identification of vegetation elements of Garden Healing on Floors 2, 3, and 4 at Green Host Hotel Yogyakarta

No.	Room	Vegetation	Cognitive / mental	Physical Health Indicators
1	Lobby Entrance &	Golden pothos scindapus	Calming, reducing stress, mental health, improving memory and productivity	Relieve allergies, filter air,
2		Golden pothos		
3		Lily of the valley	Overcoming depression,	Very good for pregnant women, body metabolism, treating wounds, healthy bones, lowering cholesterol,
4		Lee Kwan Yew	Mental stimulation, productivity,	Improve air, skin moisture, fast wound recovery,
5	receptionist	Golden pothos	Reduce stress	Air cleaning,

Source: own analysis, 2024

**b. Vegetation of the main facility area**

**a. Waiting room**

The waiting room also uses biophilic design elements such as nature materials because most of the furniture/furniture uses a combination of iron and wood. Natural materials strengthen the biophilic concept because wood is a processed waste with small dimensions combined with a press panel as shown in Figure 1 below.



Figure 13. The waiting room  
Source: own documentation, 2024

The vegetation elements used in the living room are ornamental plants algonema sri rejeki which are placed behind the guest table, while potted sirih

gading is placed on the side of the waiting chair and the front of the waiting room and also sirih gading is placed on the ceiling of the waiting room area with an iron grid frame as a supporter of biophilic design elements in the nature of space.

The types of vegetation in the waiting area are:

- 1) Algonema Sri fortune
- 2) Golden pothos

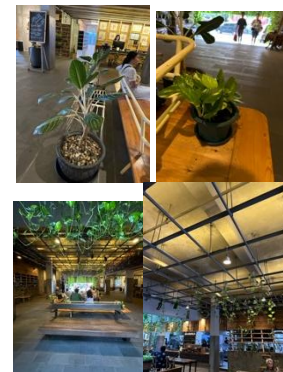


Figure 14. Ornamental plants in the waiting room  
Source: own documentation, 2024

**b. Art Kitchen Room**

Vertical vegetation. For vertical horizontal using hydroponics, namely spinach,

celery, broccoli, lettuce, mustard greens, beans, and kale, For the front vegetation elements entering the dining room using plants, namely:

- 1) bowl,
- 2) scandens golden pothos,
- 3) golden ivy,
- 4) and basil golden pothos,

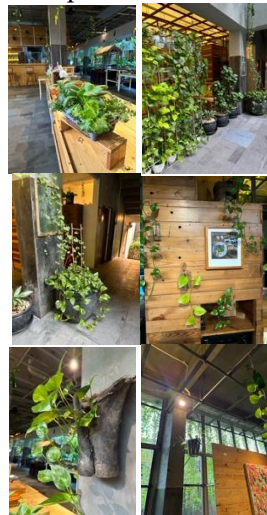


Figure 15. Decorative plants in the dining room  
Source: own documentation, 2024

**c. Dining area**

Dining area especially for guest occupants of Green host Hotel Yogyakarta. This dining area has natural and artificial lighting both as dynamic and diffuse lighting in biophilic design elements [4] the walls of the dining area use exposed concrete, and matt white paint. And the ceiling uses a square grid made of teak wood to hang some pothos plants.



Figure 16. Residents' dining room  
Source: own documentation, 2024

The vegetation elements used in the dining area, especially for residents, are quite diverse in flora plants. Starting from placing the table to the yard, some of which are arranged with horizontal and vertical ornamental plants as shown in the picture below.

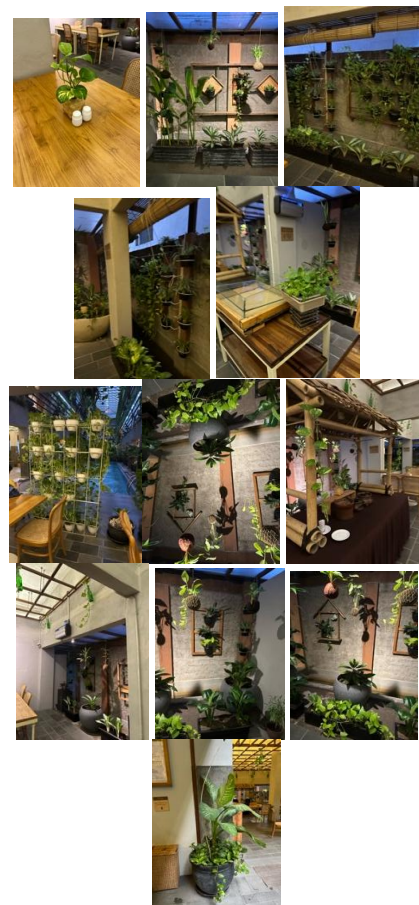


Figure 17. Dining room vegetation elements  
Source: own documentation, 2024

The types of plants placed in the dining area are listed in the table below:

- |                                   |                 |
|-----------------------------------|-----------------|
| 1) Golden pothos                  | 6) Basil        |
| 2) <i>Heliconia psittacorum</i>   | 7) Pond         |
| 3) Sri fortune                    | 8) Red rubber   |
| 4) <i>Sansevieria trifasciata</i> | 9) Peace Lily   |
| 5) <i>Neofinetia falcata</i>      | 10) Catopsis    |
|                                   | 11) Bright moon |

No	Room	Vegetation	Cognitive / mental	Physical Health Indicators
1	The waiting room	Algonema Sri Rejeki	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
2		Golden pothos	Reduce stress	Air cleaning,
3	Art Space Kitchen	Bowl	Cognitive therapy, reduces depression, anxiety,	Antibacterial, antioxidant, anti-diabetic, treats infections, heals wounds, facilitates digestion, facilitates urination, good for health
4		Golden pothos scadens	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
5		Golden pothos		
6		Brazilian basil pothos		
7	Dining area	Golden pothos	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
8		Heliconia psittacorum	Reduce stress, focus and concentration	Absorbs pollutants, relieves stomach aches, reduces the risk of allergies, speeds up healing,
9		Sri fortune	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
10		Sansevieria trifasciata	Reduce stress, improve sleep quality, improve cognitive function,	Purify the air, antibacterial, anti-inflammatory,
11		Neofinetia falcata	Reduce stress, improve mood	Antioxidant, anti-inflammatory, reduces wrinkles, brightens skin, cough and cold medicine
12		Basil	Reduces stress, anxiety, and improves relaxation and mental health.	Daily fiber intake, gut health, controlling blood sugar, lowering cholesterol, rich in compounds, healthy drinking ingredients

No	Room	Vegetation	Cognitive / mental	Physical Health Indicators
13		Pond	Reduce stress, relaxation	Rich antioxidants, anti-inflammatory effects, calms the nervous system, helps the digestive system, air quality, controls blood sugar, healthy skin, heart health
14		Red rubber	Improve concentration and focus,	Reduces the risk of infection, wards off free radicals, reduces strokes, reduces pain, lowers blood pressure,
15		Peace Lily	Improves mood, and helps people think positively, improves sleep quality	Filters air, removes spores,
16		Catopsis	Reduces symptoms of stress, depression, memory, productivity, creativity,	Cures heart disease, asthma medicine, treats ringworm, reduces fever, lowers high blood pressure, facilitates defecation, treats breasts, eliminates yellow skin in babies
17		Bright moon	Reduces stress, anxiety and depression	Prevent diarrhea, dysentery, fever

Source: own analysis, 2024

**d. Supporting facilities area**

**1) Management room**

The management room section is a private back office only for staff of Greenhost Hotel Yogyakarta. The walls use plaster without finishing with a line below the dark gray color.

Vegetation elements used in the front management room with their own unique pots as a supporter of biophilic elements, namely nature in the space. The types of vegetation elements are listed below.

- 1) Japanese jasmine flower
- 2) Golden pothos
- 3) *Strelitzia nicolai*

- 4) *Sansevieria trifasciata*
- 5) Ground orchid



Figure 18. Management Room  
Source: own documentation, 2024

**2) Meeting Room**

The meeting room is a private supporting facility only for people who rent VVIP rooms for office workers, congress meetings, small events, and so on. The



meeting room is equipped with natural furniture such as unfinished tables made of teak wood which supports biophilic elements (natural materials). The walls use exposed concrete between 2 colors, namely light gray and dark gray. The ceiling uses an iron frame in the form of a grid/lines. And natural lighting using 40 x 150 cm glass is a supporter of biophilic design elements, namely (light and space)



Figure 19. Room Meeting  
Source: own documentation, 2024

The vegetation elements used in the meeting room are golden pothos placed on the table. While the back of the corridor / hallway some vegetation plants are arranged along the way. The types of vegetation along the way are:

- 1) Golden pothos
- 2) Karok
- 3) Lee Kwan Yew
- 4) Algonema Sri Rejeki
- 5) Mother in law's tongue



Figure 20. Vegetation at the back of the room Meeting  
Source: own documentation, 2024

### 3) Toilet

The lavatory section placed on each right and left side of the Greenhost Hotel Yogyakarta building is different, the male section is on the left side and the female section is on the right. The lavatory walls use dark gray exposed concrete and the ceiling uses an iron frame grid. In the biophilic element is complexity and order because there is protection from danger and it feels safe.

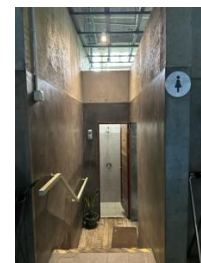


Figure 21. lavatory  
Source: own documentation, 2024

The vegetation elements in the lavatory do not use plants.

Identify the combination of supporting area facilities by showing the supporting facility identification table listed below:



Table 5. Identification of vegetation elements in supporting facilities

No.	Room	Vegetation	Cognitive / mental	Physical Health Indicators
1	Management Room	Jasmine flower	Relieves stress, anxiety, insomnia	Calms the nerves,
		Golden pothos	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
		Strelitzia Nicolaus	Reduce stress	Absorbs toxins that cause air pollution, reduces the risk of allergies
		Sansevieria trifasciata	Reduce stress,	Filters air, reduces the risk of allergies, prevents cancer,
		Ground orchid	Relieve stress,	Moisturizes skin, brightens skin, cough medicine, and cold medicine
2	Meeting Room	Golden pothos	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
		Karok	Relieve stress	Medicine for asthma, malaria, stomach ache, tinea versicolor, toothache, constipation, aches and pains, maintaining stamina, and antibacterial
		Lee Kwan Yew	Mental stimulation, productivity,	Improve air, skin moisture, fast wound recovery,
		Algonema Sri Rejeki	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
		Mother in law's tongue	Reduce stress,	Filters air, reduces the risk of allergies, prevents cancer,

Source: own analysis, 2024

a.

**e. Commercial/retail facility area vegetation**

**1) Tea Spa and Fitness Corner**

Commercially facilitated tea day spa is a place of relaxation service. The stairs connecting to the tea spa and fitness corner are a fitness place for guests of Greenhost Hotel Yogyakarta.



Figure 22. Tea spa and fitness corner

Source: own documentation, 2024

The vegetation elements used by tea and spa, when using vertical and horizontal vegetation, are a direct connection with nature (biophilic theory) because humans cannot be separated from nature.

The types of vegetation elements used by tea and spa are:

- 1) Platycerium hillebrandii
- 2) Alphonse-Carré
- 3) Golden pothos
- 4) Monstera deliciosa
- 5) Umbrella grass (Cyperus pennisetoides)

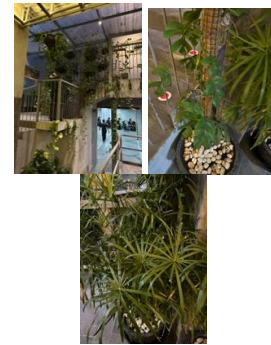


Figure 23. vertical plant section tea spa and fitness corner

Source: own documentation, 2024

**2) Fashion Store**

Fashion stores are retail or commercial supporters in the section after the corridor leading to the dining area 2. And the vegetation elements in fashion stores use ornamental plants such as the golden pothos as shown in Figure 2 as follows:



Figure 24. shop fashion/ clothing

Source: own documentation, 2024

The vegetation element used in the interior of the fashion store is the golden pothos. While the exterior is a bowl.

- 1) Golden pothos
- 2) bowl



Figure 25. shop section plantsfashion  
Source: own documentation, 2024

Table 6. Identification of vegetation elements of the Garden Healing Green Host Hotel Yogyakarta

No.	Room	Vegetation	Cognitive / mental	Physical Health Indicators
1	Tea and spa fitness corner	Playcerium hili		
		Algonema Sri Rejeki	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
		Golden pothos	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
2		Monstera cherry	reduce stress, productivity, cool	Air quality,
3		Umbrella grass (cyperus scariosus)	Reduce stress	Antioxidants, bone strength, prostate health, strong blood vessels, treats menstruation, treats urinary tract, relieves fever, sore throat,
4	Fashion/c lothing store	Ivory beak	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
5		bowl	Cognitive therapy, reduces depression, anxiety,	Antibacterial, antioxidant, anti-diabetic, treats infections, heals wounds, facilitates digestion, facilitates urination, good for health

Source: Own analysis, 2024

**f. Vegetation area of management facilities and services / service**

**1) Janitor's room**

The janitor room is used as a privacy zone

for office boys and office girls who do cleaning services at Greenhost Hotel Yogyakarta. The room is divided into two for cleaning equipment and a

break room for office boys and girls. The wall material is concrete without finishing and the door is made of wood as a support for natural materials.

There are no vegetation elements in the janitor.



Figure 26. Room janitor

Source: own documentation, 2024

**2) ME Room**

ME room section near the basement parking of Greenhost Hotel Yogyakarta. The Mechanical Engineering room combines agricultural or hydroponic space to renew or update plants that will be placed in the Green host Hotel, while the mechanical engineering room is equipped with clean water pipes, and utilities that connect to the Greenhost Hotel Yogyakarta building.

The types of vegetation used in the ME Room are listed below.

- 1) Golden pothos
- 2) Lily of the valley
- 3) agricultural city:
  - a. Platycerium Bifurcatum
  - b. alocasia
  - c. golden ivy
  - d. breadfruit tree
  - e. green palm
  - f. bowl
  - g. scandens golden pothos
  - h. basil golden pothos
  - i. fortune teller
  - j. heliconia psittacorum
  - k. Sansevieria trifasciata
  - l. neofinetia falcata
  - m. basil
  - n. pond
  - o. red rubber
  - p. catopsis
  - q. bright moon



Figure 27. Room Mechanical Engineering

Source: own documentation, 2024

Table 7. Identification of vegetation elements of the Garden Healing Green Host Hotel Yogyakarta

No	Room	Vegetation	Cognitive / mental	Physical Health Indicators
1	Mechanical Engineering Room	Golden pothos	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic

No	Room	Vegetation	Cognitive / mental	Physical Health Indicators
2		Lily of the valley	Improve mental health, and reduce stress	Filters indoor air and helps with VOCs
3	Farm City	Platycerium bifurcatum	Increase sexual arousal and pleasure	Wound healing, blood pressure, bone and joint health
4		Alocasia	Improve your mood	Filters pollution and chemical gases in the air
5		Golden pothos	Mental health, fresh mind, and calming yourself, reducing stress, happy mood, productivity,	Reduces toxins, improves digestion, immune system tonic
6		Breadfruit tree	Improves mood, reduces stress	Lowering blood pressure, reducing heart pressure, reducing allergies
7		Green palm	Increase sexual desire, improve mental health	Free radical scavenger, treats skin, improves eye health,
8		bowl	Cognitive therapy, reduces depression, anxiety,	Antibacterial, antioxidant, anti-diabetic, treats infections, heals wounds, facilitates digestion, facilitates urination, good for health
9		Scandens golden pothos	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
10		Basil golden pothos	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
11		Sri fortune	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,
12		Heliconia psittacorum	Reduce stress, focus and concentration	Absorbs pollutants, relieves stomach aches, reduces the risk of allergies, speeds up healing,
13		Sansevieria trifasciata	Reduce stress, improve sleep quality	Improves air quality in toxic air, humidifies air, neutralizes unpleasant odors, maintains eye health,

No	Room	Vegetation	Cognitive / mental	Physical Health Indicators
14		Basil	Reduces stress, anxiety, and improves relaxation and mental health.	Daily fiber intake, gut health, controlling blood sugar, lowering cholesterol, rich in compounds, healthy drinking ingredients
15		Pond	Reduce stress, relaxation	Rich antioxidants, anti-inflammatory effects, calms the nervous system, helps the digestive system, air quality, controls blood sugar, healthy skin, heart health
16		Red rubber	Improve concentration and focus,	Reduces the risk of infection, wards off free radicals, reduces strokes, reduces pain, lowers blood pressure,
17		Catopsis	Catopsis	Reduces symptoms of stress, depression, memory, productivity, creativity,
18		Bright moon	Reduces stress, anxiety and depression	Prevent diarrhea, dysentery, fever

Source: Own analysis, 2024

**d. Identification of Combined Observations of Biophilic Element Indicators & Vegetation Elements**

Table 8. Identification of combined vegetation elements

No	Room	Cognitive Response and Health	Biophilic Elements	Vegetation Elements	Y	T
1	Main Park	Healing garden	The sound of trickling water	Vertical and Horizontal ornamental trees & plants		
			wind			
			Visual connection with nature			
			Visual mental health			
2	2nd Floor Garden	Healing garden	Non-rhythmic sensory stimulation	vertical and horizontal ornamental plants, hydroponic vegetation		
			Natural lighting			
			Made from natural materials			
3	Main Facilities	Reduce stress,	Natural materials	Horizontal & vertical plants		
			Dynamic and diffuse design			



No	Room	Cognitive Response and Health	Biophilic Elements	Vegetation Elements	Y	T
4	Supporting Facilities	Providing pleasure, productivity, creativity	Natural materials Light and space	Horizontal plants, and vertical plants		
5	Commercial/Retail Facilities	Productivity, creativity, reduce stress	Direct connection with nature	Horizontal & vertical plants		
6	Service & Cleaning Facilities	Spirit, productivity,	Farm City	Vertical & horizontal vegetation		

Source: Own analysis, 2024

**e. Identification of response data to workers & visitors of Greenhost Hotel, Yogyakarta**

No.	Room name	Vegetation	Health	Biophilic	Good / bad

Source: Own analysis, 2024

**5. CONCLUSION**

In all the identifications based on my own observations, the dominant part of the building is the Main Garden, 2nd Floor Garden, dining area and Mechanical Engineering Room adjacent to Farm City, which uses the most vegetation elements compared to other rooms.

In all respondent identifications from visitors and workers directly related to Green Host Hotel Yogyakarta are ....

**Input and suggestions**

In data stimulation from the majority of respondents' data, what workers and visitors

want is Greenhost Hotel, Yogyakarta, the need for plants is... is health adequate or not... and how big is the influence of health and the influence of vegetation elements?

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